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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,235

06/16/2005

Hirotsugu Kawada

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WENDEROTH, LIND & PONACK, L.L.P.

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WASHINGTON, DC 20006-1021

EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT

PAPER NUMBER

2611

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,235	Applicant(s) KAWADA ET AL.	
	Examiner Qutbuddin Ghulamali	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/16/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-3, 5-7 are objected to because of the following informalities:

Claims 1-3, 5-7 recite “apparatus” at various places in the claim. However, as per applicant’s amendment of the Title, the word “apparatus” has been changed to “device. The Title and the Disclosure are not consistent. Appropriate correction is required.

Claim 6, line 1, “met’hod” should be corrected to “method”.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Itri (USP 5,864,592).

Regarding claim 1, Itri discloses a data transmission device carrying out telecommunications with another device via different transmission paths (16, 18) for transmission and reception, comprising:

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a receiver for receiving a signal transmitted from another device via a transmission path (fig. 5, element 16, transceiver 1, transceiver 3) for reception (col. 3, lines 15-24; col. 5, lines 53-55);

a signal processing unit for generating a transmission signal based on transmission data in synchronization with the reception signal received by the receiver (col. 5, lines 16-26, 54-67; col. 6, lines 1-21);

a transmitter (transceiver) for transmitting the transmission signal generated in the signal processing unit to another device via a transmission path (fig. 5, element 16) for transmission (col. 5, lines 16-26, col. 6, lines 1-21); and

a phase control unit (fig. 4A, phase control circuits 92, 94) for adjusting a phase of the transmission signal to set a phase difference between the reception signal received by the receiver and the transmission signal to be transmitted by the transmitter to a predetermined value (col. 4, lines 1-67; col. 5, lines 1-15), wherein the transmission paths are twisted pair cables (Itri discloses twisted pair 16, 18 as transmission medium), and the phase control unit (108, 109; col. 4, lines 11-42) sets the predetermined value to a phase difference for reducing radiation noise due to crosstalk between a common-mode signal generated in a twisted pair cable for reception and a common-mode signal generated in a twisted pair cable for transmission (Simultaneous bidirectional signaling across a differential wire pair is well known and telephone systems have been doing this for over 100 years wherein in a modern telephone system the return signal is removed using echo cancellation, and in the case of conference telephones, bidirectional echo cancellation) (col. 3, lines 15-24, 30-67; col. 4, lines 1-10, 11-42)

Regarding claim 2, Itri discloses phase control unit includes:

a phase detection unit (col. 4, lines 11-21) for detecting a phase of the reception signal (col. 4, lines 1-27); and

a timing control unit for controlling timing for the signal processing unit to generate the transmission signal in accordance with a detection result of the phase detection unit (in a typical digital subscriber line application, transceivers are located at the central office (CO) and at a remote terminal (RT) in the subscriber premises, the master timing source for such a system is supplied by the central office and the RT transceivers derive their timing information from the received signal, the RT transceivers are slaved to the CO transceiver's timing reference and the timing recovery in the RT transceivers is typically performed by phase-locked loops which generate a local clock whose frequency is identical to the frequency of the transmitter's clock in the CO transceiver, for systems such as HDSL, which use two channels to deliver the T-1 data, there are two receivers at each end of the loop with independent clock recovery loops, transceivers acquire synchronization, their clock recovery phase-locked loops will generate clocks whose frequencies are all identical to the frequency of the CO master clock, their timing phases may be different to optimally detect the received signals, these timing phase differences result from the fact that the propagation delays of the signals down the twisted pair channels vary depending on the particular configuration. And therefore, the optimal phase of the respective receiver clocks may be different (col. 1, lines 10-25, 27-65; col. 3, lines 57-67)).

Regarding claim 3, Itri discloses phase control unit includes a phase adjustment unit for adjusting the phase by delaying the transmission signal a predetermined amount (fig. 5; col. 5, lines 16-44).

Regarding claim 5, Itri discloses predetermined value can be adjusted such as $360/N$ where N can be an integer representing channels with N being 4 can produce 90 degrees and with N being 3 can give a 270 degrees) (col. 5, lines 16-26).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6, is rejected under 35 U.S.C. 103(a) as being unpatentable over Itri (USP 5,864,592).

Regarding claim 6, the steps claimed as method is nothing more than restating the function of the specific components of the apparatus as claimed above and therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to represent the claim in an alternate way so as to realize steps of the apparatus as claimed, considering the aforementioned rejection for the apparatus claim 1.

Claim 7, is rejected under 35 U.S.C. 103(a) as being unpatentable over Itri (USP 5,864,592) in view of So et al (US Pub. 2004/0170131).

Regarding claim 7, Itri discloses all limitations of the claim above except does not explicitly disclose reception and transmission is integrated on a semiconductor substrate. However, So, discloses a transmission circuit of conducting transmission signals between devices such as a transmitter and a receiver from an integrated circuit device (page 1, section 0004). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an integrated circuit to for transmission of signals between a transmitter and a receiver as taught by So in the circuit of Itri because it the technique can reduce or mitigate interface structure ambiguities, reduce differential interface noise and manufacturing cost.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

US Pub. (2005/0141601) to Renaud et al.

US Pub. (2005/0129099) to Borker et al.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutbuddin Ghulamali whose telephone number is (571)-

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272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.

March 20, 2008.

/CHIEH M FAN/

Supervisory Patent Examiner, Art Unit 2611